

**The Demand for Locally  
Manufactured Complementary  
Food Products Among  
Palestinian Caregivers**



**A2Z**

**The USAID Micronutrient and Child Blindness Project**



## Preface

This report is made possible by the generous support of the American people through the United States Agency for International Development (USAID) under the terms of Cooperative Agreement No. GHS-A-00-05-00012-00. The contents are the responsibility of the Academy for Educational Development (AED) and do not necessarily reflect the views of USAID or the United States Government. A2Z Project contracted Alpha International to conduct the study in the West Bank.

A2Z: The USAID Micronutrient and Child Blindness Project consolidates, builds, and expands on USAID's long-term investment in micronutrients, child survival, and nutrition. A2Z takes proven interventions to scale, introduces innovation, expands services, and builds sustainable programs to increase the use of key micronutrient and blindness interventions to improve child and maternal health. With work in vitamin A supplementation of children, newborn vitamin A, food fortification, maternal and child anemia control, monitoring and evaluation, and health systems strengthening, A2Z's focus countries have included Bangladesh, Cambodia, ECSA region, India, Nepal, Philippines, Tanzania, Uganda and West Bank.

A2Z provides technical assistance to the Palestinian Authority to increase the provision of essential micronutrients in the Palestinian diet, thereby reducing the risk of micronutrient deficiencies in the West Bank. ANERA implements A2Z activities in close cooperation with the Palestinian Ministry of Health (MOH).



## Table of Content

1.0	Executive Summary.....	4
2.0	Introduction.....	6
2.1	Overview.....	6
2.2	Study Objectives.....	7
2.3	Description of Sample.....	7
3.0	Survey Methodology.....	8
3.1	Questionnaire Design.....	8
3.2	Pilot Study.....	8
3.3	Survey Target Population.....	8
3.4	Sample Size and Design.....	8
3.5	Time and Duration of Data Collection.....	9
3.6	Data Editing and Coding.....	9
3.7	Data Entry.....	9
3.8	Data Analysis.....	10
4.0	Main Findings.....	11
4.1	Feeding Habits.....	11
4.2	Homemade versus commercial complementary feeding.....	12
4.3	Types of commercial complementary food mothers give their children .....	15
4.4	Mothers preferences of commercial complementary food.....	16
4.5	Mothers' commercial complementary food preferences in terms of size, price and packaging.....	16
4.6	Mothers' acceptance of Fortified food.....	16
4.7	Mothers' acceptance of Palestinian powder supplements for foods (sprinkle-like products).....	17
4.8	Supplementation practices.....	17
4.9	Information to improve complementary feeding practices.....	18
5.0	Key Conclusions and Recommendations.....	19
6.0	Annexes.....	20
6.1	Annex1: Survey Questionnaire.....	20



## Executive Summary

This study gathered information on the feeding practices of infants and young children under 3 years of age. It also examined caregivers' readiness and ability to access different locally-manufactured complementary foods for children aged 6-35 months. The study was conducted by A2Z, a USAID-funded project implemented in the West Bank by the Academy for Educational Development (AED) through a subcontract with American Near East Refugee Aid (ANERA).

The majority of the data was collected from mothers living in rural areas, and some from those living in urban areas and refugee camps. They were mostly young, married, unemployed, without higher education, with medium to large families (3-8 members) and low monthly income (2,000 NIS or less). Most were not first-time mothers. The surveyed children were between 12-35 months of age (and in birth order commonly ranked third or higher).

Nearly all mothers surveyed said they had breastfed their children after delivery, while only 14.1% exclusively breastfed their children until the age of six months or more. According to a complementary feeding study conducted by the USAID-funded Hanan project in 2008, the culture of child feeding among mothers and families does not recognize the importance of exclusive breastfeeding. Instead, the overwhelming majority of mothers do provide their children with some types of fluids such as herbal tea, sage, water and other liquids.

The early introduction of fluids and food is evidenced in this study and others. The results indicate that more than two-thirds of mothers started complementary feeding as early as four to six months. Some reasons cited by mothers are that the child feels hungry after breast-feeding, or they felt it was the right age for their children to taste food. However, the majority of mothers (72%) indicated that they did not reduce the frequency of breast-feeding after the start of complementary feeding. This again, reflects cultural feeding practices that are influenced by the mother's mother-in-law, husband and other more experienced mothers.

For the mothers that introduce complementary feeding early, the food that is provided to children is either homemade, or commercial food bought from the market. It was interesting to note that the overwhelming majority of mothers (95%) prefer homemade over commercial complementary food because they think it is cleaner, free of preservatives, fresher, and more economical. When commercial complementary food was used, the vast majority chose it because it is prepared more easily, and saves time for busy mothers who are burdened with other responsibilities, including caring for other children and managing household affairs that are made more difficult by economic difficulties.

When mothers were asked about the type of commercial foods, we learned that warm porridge, biscuits, milk pudding, and fruit juice are the most popular commercial complementary foods. These are easy to prepare and help mothers to feed their children when they are not satisfied with solely breast-feeding. Mothers also said they prefer to use and pay for small size containers and prefer to store such foods in the refrigerator (in liquid or semi-liquid form).

Palestinian mothers prefer natural foods for use in child feeding (95%). Despite this, 68% of mothers mentioned that they are willing to consider the use of micronutrient powders. Therefore, micronutrient powders appear to be a candidate to improve the nutritional density of homemade foods. The commercially available foods that are used for complementary feeding need study to ensure their quality and nutritional composition. Standards and regulations should be enacted for such products, utilizing a market-driven policy.

The results of the study indicate the prevalence of a favorable and positive attitude by mothers towards breastfeeding, complementary feeding practices and consumption of commercially fortified food by children. The findings list key recommendations to minimize risks and maximize benefits at different levels of intervention. Namely, the study found a need for:

- Clear policies and guidelines for healthcare providers to enforce the proper adoption of exclusive breastfeeding practices by mothers;
- Standardized education, information and communication with regard to enforcing proper complementary feeding practices especially for children under two years of age;
- Standards and controls for the production of commercially fortified foods that are scientifically approved, safe, age-specific, and provided with clear instructions for their use by consumers;
- Healthcare providers trained on complementary feeding habits to standardize advice provided to mothers on complementary feeding at different ages;
- Private sector and NGO engagement in promoting proper complementary feeding practices, as they constitute a key source of information that may contradict with recommended practices.



## 2.0 Introduction

### 2.1 Overview

The first two years of a child's life are critical, being characterized by a high rate of growth and intense maturation. Optimum nutrition and good infant feeding are among the most important determinants of health, growth and development in early life. Therefore, appropriate infant feeding (including breast-feeding and complementary feeding practices) are fundamental to children's nutrition, health, and survival during this period.

The World Health Organization (WHO) recommends exclusive breast-feeding until six months of age and continued breast-feeding for at least two years, along with the timely introduction of adequate amounts of complementary foods<sup>1</sup> of suitable nutritional quality. The timely introduction and continued provision of complementary foods during infancy are necessary for both nutritional and developmental reasons and enable the transition from breast milk feeding to family foods. Additionally, complementary food becomes important when breast-feeding is not possible or when breast milk can no longer meet macro- and micro-nutrient requirements as the infant gets older.

Many studies have shown that poor-quality complementary foods (with low micronutrient density) and inappropriate feeding practices are among the major causes of malnutrition in young children. It is estimated that globally 85% of mothers do not comply with current recommendations on infant feeding. In many developing countries, complementary foods are introduced too early or too late, with insufficient quality and quantity, leading to a great risk of nutritional deficiencies during the second half of infancy. Many programs have been conducted worldwide to reduce childhood malnutrition through the early start and prolonged duration of breast-feeding, timely introduction of proper and improved complementary feeding practices, and regular growth monitoring.

With the increasing importance of complementary and fortified food, there is a greater need to design and produce fortified complementary products, which meet the nutritional needs of all breast-fed children between 6 and 23 months. As in other countries, many efforts are made to increase people's acceptance of these kinds of products and to evaluate the capacity and willingness of local food industries to produce such products.

Many nutrition programs focusing on complementary feeding and micronutrient deficiencies have been implemented in the Palestinian Territories, including programs to prevent and address micronutrient deficiencies through supplementation or fortification. In addition, the first Palestinian National Nutrition Strategy, which was developed in 2003 by the Ministry of Health (MOH), highlighted the following strategic priorities: management of malnutrition; communication strategies for behavior change; support and encouragement of breast-feeding and appropriate complementary feeding; food fortification; development of protocols and guidelines; and development of a nutrition surveillance system.

---

1) The WHO has described complementary feeding as «the period during which other foods or liquids are provided along with breast milk».

## 2.2 Study Objectives

This study aims to assess the potential acceptance of locally manufactured complementary food products among caregivers of children aged 6-35 months in the Palestinian community.

A2Z's objective is to facilitate production of fortified foods by different food industries in the West Bank, following principles of public health nutrition and in partnership with the MOH. A specific objective of the project is to identify possible types of fortified foods that could be manufactured using existing equipment and facilities. At this stage, the emphasis is on foods for infants and young children (e.g., complementary food).

This survey was designed to collect the necessary data from mothers of children in the West Bank. Surveyed mothers included women of different ages, with varying number of family members, age of children, educational background, family income, marital status, type of residence and employment status.

## 2.3 Description of Sample

The study targeted a sample of 321 young mothers living in the West Bank (with an average age of 28.7 years). Two thirds of the surveyed mothers (65.4%) lived in a rural area. Almost all of the mothers (99.4%) were married. Only 20.5% of them have diplomas or university degrees. While most of mothers (85.7%) are housewives, 90.3% report that the head of their household is employed. The majority of the households with an employed household head (65.1%) have a monthly income of 2000 NIS or less.

Over half (57.8%) of the mothers live in households with 5-8 members, while another 27.4% live in households with 3-4 members. Most mothers (57.3%) have 3-6 children, while 34% have 1-2 children.

The mothers surveyed as part of this study had children in different age groups. Less than half of them (43.6%) had children aged 12-23 months, while the rest had children aged between 6-11 months and 24-35 months. Most of the children (63.2%) were the youngest children in a larger family (e.g., the third, fourth, fifth, sixth, seventh or younger). Only 36.8% of children were the first or the second child in their families.



## Survey Methodology

This study is based on a field survey conducted through face-to-face interviews for a national representative sample of the target population. The survey was developed and conducted utilizing the following steps.

### 3.1 Questionnaire Design

The questionnaire included questions on breast-feeding practices, timing and characteristics of weaning, the use of commercially available foods, preference for specific products, degree of acceptance of fortified food and micronutrient powders, the use of supplements, information for improving complementary feedings, and the demographic profile of the mother, the targeted child and the larger household.

### 3.2 Pilot Study

After the completion of the questionnaire design, a pilot study was conducted on a small study sample of the target group (ten respondents). This pilot study aimed to identify indicators that could cause a misunderstanding of the study tool, such as language or the conceptual context. It aimed also to evaluate interest in participating in the study and the time needed to complete the interview.

### 3.3 Survey Target Population

The population targeted by the survey was mothers with children aged 6-35 months in the West Bank.

### 3.4 Sample Size and Design

The sample size was 321 mothers. Sample selection was done using multistage cluster sampling. A sample of 32 clusters was selected in different districts using probability proportional to size (PPS) sampling, which guarantees that unbiased estimators for the parameters of interest were obtained.

#### **The sampling was done in using three stages:**

- a- Selecting 32 clusters with each cluster containing 100 to 150 households
- b- Selecting households using systematic sampling (e.g., ten households from each cluster).
- c- Interviewing the mother if she met the selection criteria which is having a children aged 6-35 months. (If more than one mother met the selection criteria and was available at the time of interview, one of the mothers was chosen randomly.)

A specialized technique was used to select the 32 clusters according to the theory of cluster sampling, which guarantees unbiased estimators. This technique is described as the following:

- a- A list of population locations in the target population was prepared. The primary sampling unit was a cluster of households (contains 100 to 150 households).
- b- The sampling interval  $L = CN/ k$  was calculated, where  $k$  is the number of clusters to be selected.
- c- A random number  $X_0$  was selected from the interval  $[0, L]$ .
- d- The  $i$ th random number  $RI = X_0 + (i-1)*L$  was calculated.
- e- The  $i$ th cluster is selected in the sample if  $R_i$  belongs to the interval  $[C_i, C_{(i+1)}]$ .

### 3.5 Time and Duration of Data Collection

The data collection process was carried out by field workers who conducted face-to-face interviews with the mothers of children aged 6-35 months. Data collection was conducted between January 7 and January 25, 2009.

### 3.6 Data Editing and Coding

The following steps were followed in the data editing and coding process:

Checking the questionnaires in the office: After questionnaires arrived from the field to the main office, they were reviewed by in-office editors who prepared questionnaires for data entry.

Coding the questionnaires: Open questions were post-coded by in-office editors. The post-coding process is important for transforming open questions into close-ended questions, which makes it easier for data analysis purposes.

Examining data upon data entry: Using the special data entry program, the computer sets checks and controls that prevent the data entry personnel from entering wrong codes, as well as enabling them to skip questions automatically when needed.

Data cleaning: After all questionnaires were entered, initial frequency tables were generated for variables and examined to detect any data errors or outliers. When an error was detected, the whole questionnaire was re-entered.

### 3.7 Data Entry

In this stage, the questionnaires were entered on a special program for data entry using Access2000. This program features the following characteristics:

- Possibility of working in an Arabic language version on the computer screen;
- Limiting data entry errors to the minimal;
- Ease of presenting data from the various sections of the questionnaire;
- Ability to check the rational sequence in the questionnaire data;
- Ability to conduct internal data checking; and
- User-friendly system.

Moreover 10% of the questionnaires were entered twice to make sure that the data entry quality is up to the required standards.

### **3.8 Data Analysis**

After the completion of the previous stages and ensuring the questionnaires' accuracy, the data analysis process was conducted. The data was converted from Access2000 program into the statistical program SPSS, using Stat-Transfer program that ensures data transformation is complete and accurate as well. Frequency tables, cross-tabs, and graphs were designed to present the statistical results for the indicators under survey.

## 4.0

# Main Findings

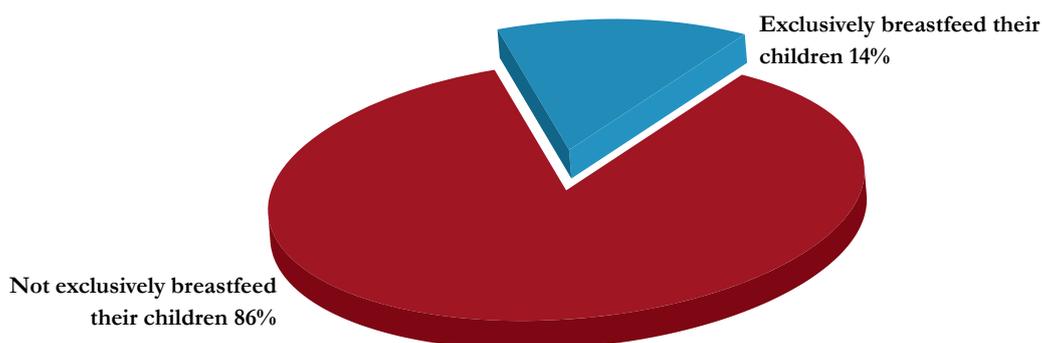
### 4.1 Feeding Habits

The World Health Organization (WHO) in its global recommendations report for appropriate feeding of infants and young children spelled out the following guidelines that can be used as a general reference for complementary feeding practices for children 6-24 months:

1. Breast-feeding should start early, within one hour after birth.
2. Breast-feeding should be exclusive for six months.
3. Appropriate complementary feeding should start from the age of six months with continued breast-feeding up to two years or beyond.
4. Appropriate complementary feeding is:
  - Timely – meaning that foods are introduced when the need for energy and nutrients exceed what can be provided through exclusive and frequent breast-feeding;
  - Adequate – meaning that foods provide sufficient energy, protein, and micronutrients to meet a growing child’s nutritional needs;
  - Safe – meaning that foods are hygienically stored and prepared, and fed with clean hands using clean utensils and not bottles and teats;
  - Properly fed – meaning that foods are consistent with a child’s signals of appetite and satiety, and that meal frequency and feeding methods – actively encouraging the child to consume sufficient food using fingers, spoon or self-feeding – are suitable for age.

The results of this study reveals that almost all mothers included in the survey (95%) said they have breastfed their children while only 14% said they did so without any additional food (exclusive breast-feeding), as shown in the graph below. This rate is not far from the national rate of mothers who exclusively breastfeed their children estimated at 21% by the MOH. The low rate of exclusive breast-feeding is attributed by mothers to child remaining hungry, not gaining weight, inadequacy of breast milk, breast problems and pressure from influencers such as a mother-in-law, husband, relatives, and others.

Percentage of mothers exclusively breastfeed their Children



It was found that 68.2% of surveyed mothers had stopped breastfeeding their children. The table below describes the distribution of children’s ages when the mother stopped breast-feeding.

**Children’s age when mothers stopped breastfeeding**

Age	Total (%)
1 – 6 months	20.2
7 – 12 months	34.1
13 – 18 months	31.8
> 18 months	13.9
<b>Total</b>	<b>100.0</b>

\* These percentages are out of the 68.2% of mothers above

Thus, 32.4% of mothers said they started complementary feeding at the age of four months and 29% of them said they started at six months. When these women were asked why they did so, almost half said they started complementary feeding at that age because the child was not satisfied with breast-feeding only, while the other half said that it was the appropriate age for their child to taste food.

Two thirds of these mothers who started complementary feeding (70.7%) said they did not reduce the frequency of breast-feeding when they started complementary feeding (that is the case for mothers of all ages). For those who said they reduced breast-feeding, 46.9% of them said they did so because the child’s hunger was partially satisfied with the complementary food; 13.9% to make the child feel hungry, eat more, accept the food and to sleep more; and 5.1% encourage eating in order to bring about weight gain.

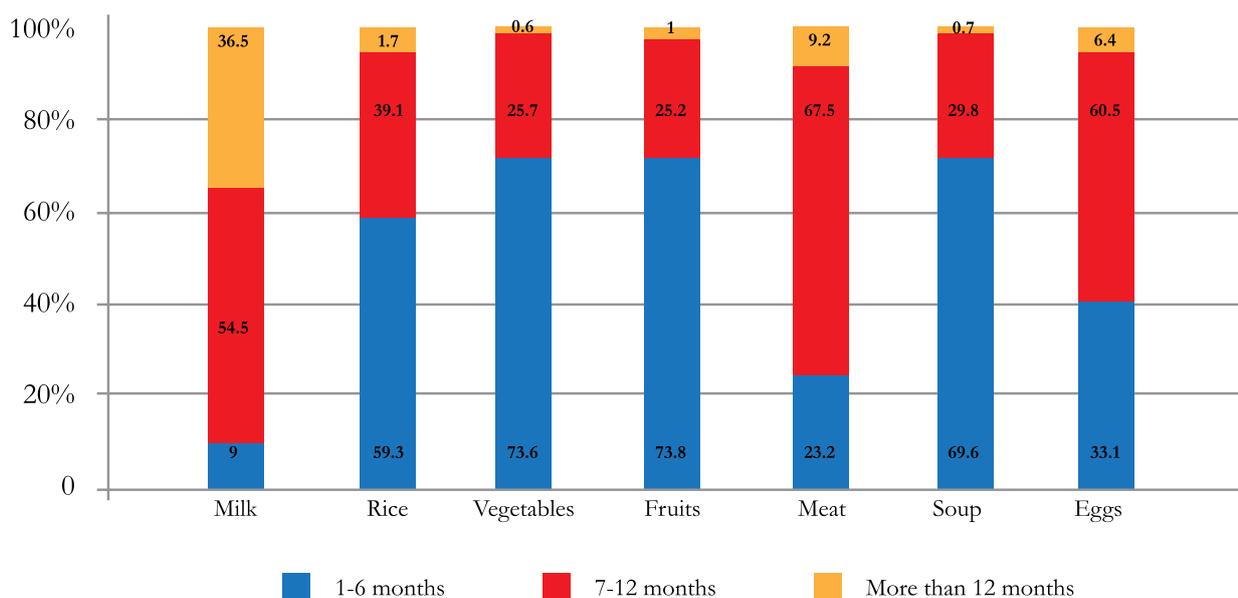
**Reasons for reducing breast-feeding when starting with complementary feeding (only for those who reduced breast-feeding)**

Reason	Mothers of 6-11 months	Mothers of 12-35 months	Total (%)
S/he started to fill up more than before	54.5	45.6	46.9
So that s/he becomes hungrier and eats more; and is satisfied by food; grow to depend on food and benefit from it	0.0	16.2	13.9
S/he sleeps more	18.2	4.4	6.3
So that s/he eats in order to gain weight	0.0	5.9	5.1

**4.2 Homemade versus commercial complementary feeding**

Regarding types of homemade complementary food, mothers gave their children rice, vegetables, fruit, soup, meat, eggs and home-milk purchased for the use by the family. The percentages of mothers using homemade complementary food by age are shown in the table below:

## Percentage of mothers that started to use homemade complementary foods, by child's age



The above figure shows that rice, vegetables, fruits, and soups are introduced at 1-6 months. Then, at 7-12 months, milk, meat and eggs are used more frequently. When the child reaches 1 year of age, all the foods have already been introduced.

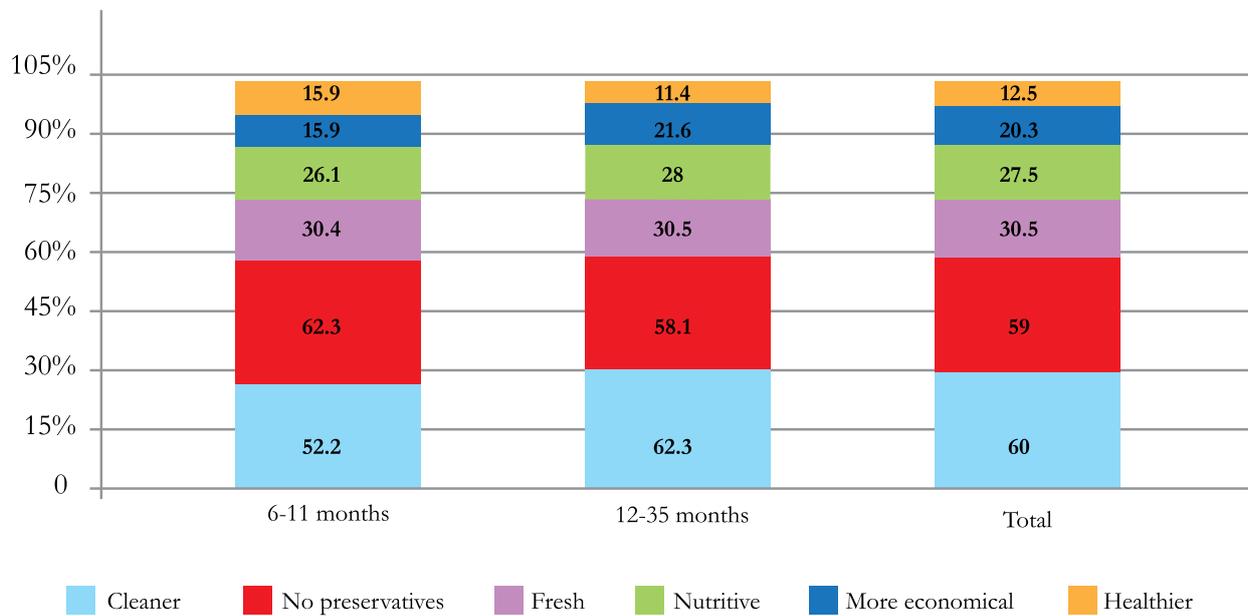
It is worth noting that:

- More than half of mothers who said they give rice, vegetables, eggs and fruits do give it at age 6-8 months
- Mothers hardly gave soup with bread (only 4% of those who started complementary feeding).

Based on their practice of complementary feeding, 92.2% of mothers who did so said there is a difference in complementary feeding between children 6-11 months and those of 12-35 months (70.5% of whom said the difference is in food quantity while 69.6% said the difference is in the type of food i.e. soft or solid). Only 19.9% of those who said there is a difference said the children over a year eat from the family food and 14.2% said children eat alone. On the other hand, most mothers (88.8%) who practiced complementary feeding said there is no difference in complementary feeding between males and females. 58.8% of those women who said there is a difference indicated that girls eat more than boys.

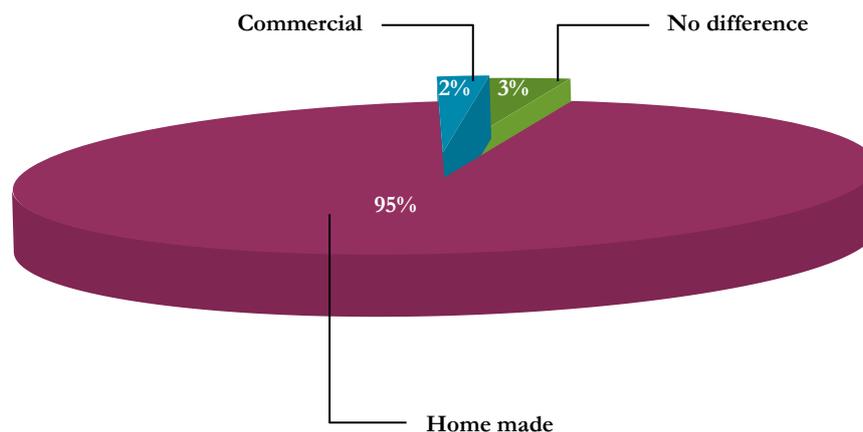
Comparing between homemade and commercial complementary food, most of mothers (95%) said they prefer homemade complementary food. When asked why they do, they gave the reasons shown in the chart below:

### Reasons why mothers prefer homemade complementary food by child age



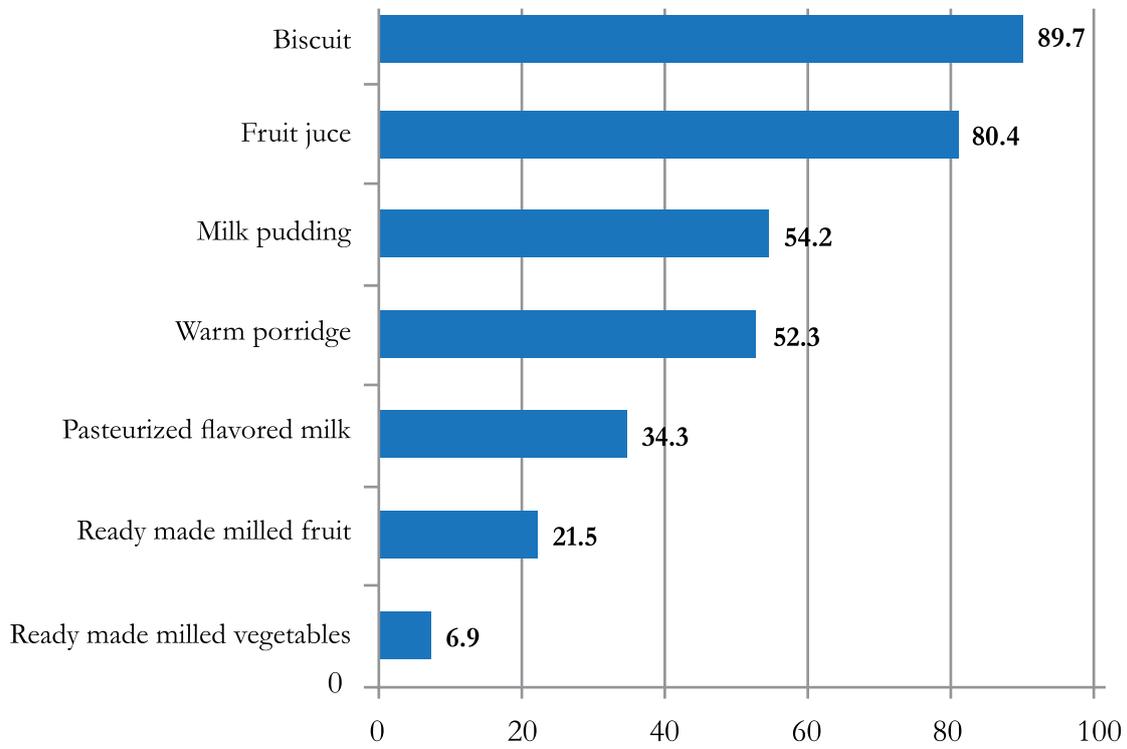
For those who prefer commercial complementary food, 85.7% out of 2% of the total mothers said they prefer it because it is quicker in preparation. They use commercial foods mainly when they are outside their homes (36.8%). 16% reported daily usage of commercial foods, 9.7% said they do that when there is no food at home or when mothers are busy, and 8.8% said they use it if the child likes it.

### Do you prefer homemade complementary food over commercial?



### 4.3 Types of commercial complementary food mothers give their children

As for mothers who give their children commercial complementary food, 97% of mothers use types of commercial foods shown in the graph below.



The following table shows preferred types, child age, sizes, prices and storage:

	Type	Age child for starts eating	Package Size	Price NIS	Storage
1	Warm porridge	Up to 8 months	Large	21 - 25	Cupboard
2	Biscuit	Up to 8 months	Small	1 or less	Cupboard
3	Milk pudding	Up to 8 months	Small	1 - 2	Fridge
4	Ready-made milled fruit	Up to 8 months	Small	2 - 5	Fridge
5	Ready-made milled vegetables	Up to 8 months	Small	2.5 - 3	Fridge
6	Pasteurized flavored milk	6 - 12 months	Small	1	Fridge
7	Fruit juice	6 - 12 months	Small	1 or less	Fridge

**4.4 Mothers preferences of commercial complementary food**

In their answers to the question on their preference of commercial food’s country of origin, 45.2% of mothers said there is no difference between Palestinian food and Israeli food or other country of origin. The results of the survey showed no preference for a specific country for manufactured complimentary foods: 26.5% of them prefer Palestinian food, 27.1% prefer Israeli food and 1.2% prefer other foods.

For those who prefer Palestinian food, 62.4% of them said they do prefer it because it is a national local product and 22.4% said it is more trusted.

As for those who prefer Israeli food, 51.7% of them said it tastes better, and 50.6% said it is of a better quality. Only 9.2% said it is more trusted. 8% said it is being controlled by the food authorities, and 6.9% said it has vitamins or healthy ingredients.

**4.5 Mothers’ commercial complementary food preferences in terms of price and packaging size**

The following questions were addressed to respondent mothers regarding types of commercial foods they would buy, their preference for packaging size (small and large sizes are based on mothers’ perception) and the price they are willing to pay for it if these types of food were to be produced by Palestinians:

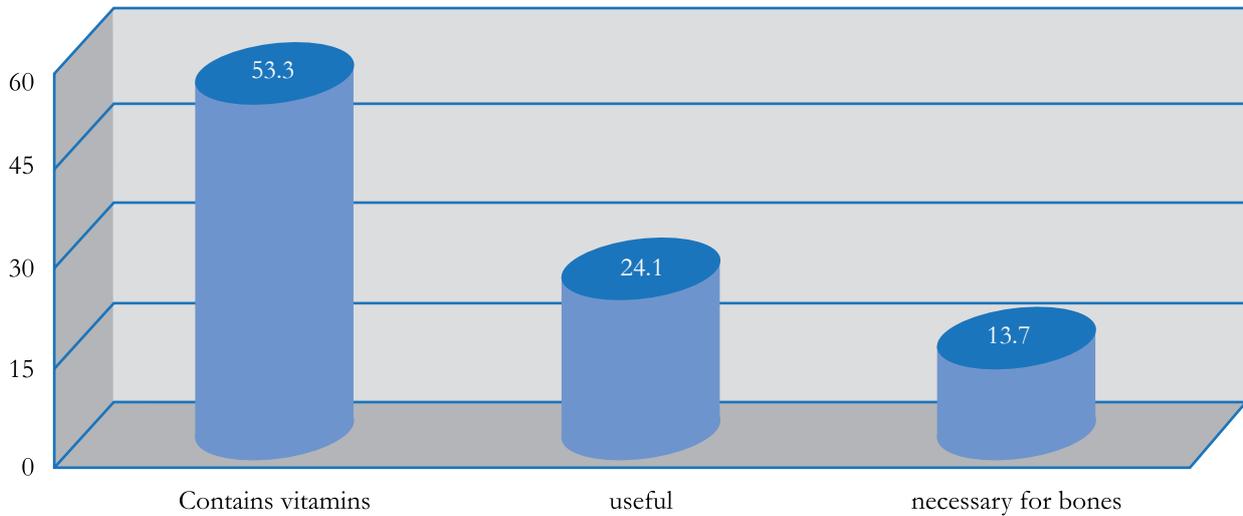
	Type	Percentage of mothers who prefer it	Size	Price NIS
1	Warm porridge	83.8	Large	2 or less
2	Biscuit	98.1	Small	1 or less
3	Milk pudding	78.8	Small	1 or less
4	Ready-made milled fruit	64.8	Small	2 - 4
5	Ready-made milled vegetables	58.6	Small	1 - 4
6	Pasteurized flavored milk	76.9	Small	1 - 1.5
7	Fruit juice	97.5	Small	0.5 - 1

When mothers were asked if they have any special packaging preference, 19.5% prefer packages colored with childish paintings/fruit, 18.2% said its colors should attract children, and 10.5% of the mothers mentioned by themselves that they prefer the food items to be fortified with nutrients. There was not really any main preference, other than the safety of the food inside the case/package.

**4.6 Mothers’ acceptance of fortified food**

The following questions were designed to assess surveyed mothers’ acceptance of solid and liquid children’s food that is fortified with nutritional material such as minerals and vitamins. Questions focused on whether they accept giving it to their children or not, why this is, whether they would buy such product if produced by Palestinians and the price they are willing to pay for it.

### Reasons why mothers would give their children food or fluids fortified with nutritional materials



The minority (9.3%) who said they would not accept fortified food, 44.8% of them said it is better to give the child natural food.

#### 4.7 Mothers' acceptance of Palestinian powder supplements (micronutrient powders) for foods

68% of mothers said they would consider buying and using Palestinian products that consist of powdered essential vitamins and minerals, packaged in small sachets, which can be added to their child's food without changing the color, taste or smell of the food. In their answers as to why, 28% said it is useful, 24.8% that it is good for child growth, 11% that it contains vitamins and 6.9% that it contains minerals.

**Of those who were reluctant to accept micronutrient powders, 64.1% preferred natural food and 18.4% said they would not try something they had not heard about before.**

Additionally, when asked how much they would be willing to pay for such a product if produced in packages containing 30 sachets (with the intent of using one sachet a day), 30.5% of mothers said they would pay 21-30 NIS and 50.4% said they would pay 5-15 NIS per month.

#### 4.8 Supplementation practices

Finally, mothers were asked about their knowledge and practices around giving vitamin and iron supplements to their children. They were asked what they think of it, whether they give them to their children, if not they were asked about the reasons behind that.

Most mothers (91%) said they have given their children supplements with vitamins A and D as well as iron drops during the first year of the child's life. This is mainly in line with MOH recommendations.

More than half of those mothers gave vitamins A and D and iron, and 38.7% gave vitamins A and D only. The majority of them (68.8%) gave it on a daily basis during the first year of the child's life. For those who have given vitamins A and D and iron, 94.3% of them said it is something good to do for the health of child.

For those who did not give it regularly, 68.9% said they forgot to do so and 11.1% said the child did not like it.

#### 4.9 Information to improve complementary feeding practices

The last part of this survey dealt with the type of information that would help mothers improve their complementary feeding practices for their children.

- 29.1% of mothers said **they need information about complementary feeding of children in early age.**
- 16.3% of them said they **need information on types of children's food, what it consists of and what benefits it provides to children past the age of 6 months, and at what age complementary food may be given to children.**
- 12.5% of them said they need to know the quantity of food that the child needs at each age period
- 10.6% said they **need information about food that is required for the child's growth, weight gain and nutritional value**
- Only around 8% said they **need to know what is useful for children less than 6 months of age**
- 8% said they **need information on vitamins, iron and minerals** contained in different types of food

53.6% of mothers said they prefer to get required information in booklets, 41.2% in brochures and 31.8% through attending workshops. Only 20.4% prefer the radio. However, it seems that pediatricians are not considered a source of information, as they are not easily accessible.

Nearly half (44.2%) of mothers said there is somebody else who helps them decide on the type of complementary food and fluid given to their children. 44.4% of those (less than half of the 44.2% of all mothers) said it is their mother-in-law who helps them, 33.8% said their mothers and 7% said their husbands.

## 5.0

# Key Conclusions and Recommendations

- Palestinian mothers prefer natural foods for use in child feeding (95%). Despite this, 68% of mothers mentioned that they are willing to consider the use of micronutrient powders. Therefore, micronutrient powders appear to be a potential candidate to improve the nutrient density of homemade foods.
- The study indicated there would be reasonable demand for Palestinian-made complementary foods in the West Bank market, if appropriately sized, priced, and packaged.
- Although commercial complementary foods are not completely preferred by mothers, the nutritional content of those products should be improved.
- There is a need to control the production of commercial fortified food that is scientifically approved, culturally and socially relevant, safe, and age specific.
  - Local assessment of the efficacy of potential programs to improve complementary feeding is needed.
  - Pilot trials are needed to assess the acceptability of powder-supplements by Palestinian care providers in order to intensify the micronutrient content of homemade foods. This pilot needs to test acceptability, compliance and affordability of powder supplements that can be added to homemade food.
  - A combination of strategies to improve complementary feeding is required. This includes enforcing already existing national nutrition strategies with the supplementation and fortification strategies adopted by the MOH, evaluating such strategies, and exploring new strategies that have already been tested which may also work (e.g., using fortified powder that contain key nutrients).
- There is a need to enforce the proper adoption of exclusive breast-feeding practices by mothers.
- There is a need for proper education and support for mothers on appropriate complementary feeding practices among children 6-24 months old, to promote growth and prevent stunting among this age group. Also attention should be given to others who have influence in this sphere, including mother-in-laws and husbands.
- There is a need to engage the private sector and NGOs in promoting proper complementary feeding practices as they constitute a key source of providers' perspective that may contradict with recommended practices.
- The results of the study indicate that despite the favorable and positive attitude of mothers towards exclusive breast-feeding, and complementary feeding practices, there is still a need to educate them about how to minimize risks and maximize benefits in different interventions.



## Annexes

### 6.1 Annex1: Survey Questionnaire

Complementary Feeding Practices For Children between the age of 6 months and 36 months Questionnaire

Identification Information	
<input type="text"/> <input type="text"/>	Questionnaire Number .....
<input type="text"/> <input type="text"/>	Location .....
<input type="text"/> <input type="text"/>	District .....
<input type="text"/> <input type="text"/>	Field researchers name.....
<input type="text"/> <input type="text"/>	Date of filling the questionnaire...../...../.....
Field Auditing	
	Date of reviewing the questionnaire by the researcher...../...../.....
	Date of auditing the questionnaire by the supervisor...../...../.....
	Supervisors Signature.....
Office Auditing	
	Date of receiving the questionnaire...../...../.....
	Date of auditing the questionnaire by the supervisor...../...../.....
	The questionnaire results      1. Completed      2.Not completed Thereason.....
	Supervisors signature .....

<b>Demographic Information of the mother and the child</b>	
B1. Date of the youngest child's birth..... / ..... / ( between 6 to 36 months)	<input type="checkbox"/>
B2. The surveyed child's age in months ..... The child's name.....	<input type="checkbox"/>
B3. Number of children the mother gave birth to .....	<input type="checkbox"/>
B4. Rank of the surveyed child among the siblings .....	<input type="checkbox"/>
B5. Mother's Age .....	<input type="checkbox"/>
<b>Practice of breast-feeding</b>	
Q1: Have you breastfeed your child? 1. Yes                      2. No (Skip to Q8 )	<input type="checkbox"/>
Q2: Did you breastfeed your child without any additional food, herbs and water? 1. Yes                      2. No (Skip to Q4 )	<input type="checkbox"/>
Q3: To which month did you exclusively breastfeed your child? .....	<input type="checkbox"/>
Q4: Did you stop breast-feeding your child? 1. Yes                      2. No (Skip to Q6 )	<input type="checkbox"/>
Q5: What was the age of your child when you stopped breast-feeding? .....	<input type="checkbox"/>
<b>Interviewer: Skip to Q8</b>	
Q6: Have you planned to stop breast-feeding your child in the future? 1. Yes                      2. No (Skip to Q8 )	<input type="checkbox"/>
Q7: At what age will you stop breast-feeding your child? .....	<input type="checkbox"/>
<b>Initiation and characteristics of weaning</b>	
Q8: What was the age in months of your baby when you started complementary feeding? ..... (For the interviewer : water and herbs are not considered complementary food)	<input type="checkbox"/>

<b>Q9: Why did you start complementary feeding at that age? (Not prompted)</b>			
<b>Q9_1: The child doesn't sate</b>	1. Yes	2. No	<input type="checkbox"/>
<b>Q9_2: The child is not gaining weight</b>	1. Yes	2. No	<input type="checkbox"/>
<b>Q9_3: Mother did/does not have enough milk</b>	1. Yes	2. No	<input type="checkbox"/>
<b>Q9_4: Mother was/ is working</b>	1. Yes	2. No	<input type="checkbox"/>
<b>Q9_5: Child refused breast-feeding</b>	1. Yes	2. No	<input type="checkbox"/>
<b>Q9_6: It is the appropriate time to taste food</b>	1. Yes	2. No	<input type="checkbox"/>
	<b>Q9_7: Other, specify .....</b>		
<b>Q10: Did you reduce the frequency of breast-feeding when you started complementary feeding for your child?</b>			
1. Yes                      2. No (skip to Q12)			
<b>Q11: What are your reasons to reduce breast-feeding?</b>			
.....			
.....			

<b>Q12: What types of homemade complementary foods have you given your child at different ages? «prompted» (read the options)</b>				
<b>Food</b>			<b>Age</b>	
<b>Q12_1: Infant formula</b>	1. Yes	2. No		<input type="checkbox"/>
<b>Q12_2: Milk ( Family milk )</b>	1. Yes	2. No		<input type="checkbox"/>
<b>Q12_3: Rice ( semi solid or mashed)</b>	1. Yes	2. No		<input type="checkbox"/>
<b>Q12_4: Herbs</b>	1. Yes	2. No		<input type="checkbox"/>
<b>Q12_5: Vegetables ( semi solid or mashed)</b>	1. Yes	2. No		<input type="checkbox"/>
<b>Q12_6: Fruits ( semi solid or mashed)</b>	1. Yes	2. No		<input type="checkbox"/>
<b>Q12_7: Meat derivatives ( minced or mashed)</b>	1. Yes	2. No		<input type="checkbox"/>
<b>Q12_8: Soup</b>	1. Yes	2. No		<input type="checkbox"/>
<b>Q12_9: Eggs (semi solid or mashed</b>	1. Yes	2. No		<input type="checkbox"/>
<b>Q12_10: Others, specify: .....</b>				<input type="checkbox"/>
<b>Q13: Are there any differences in complementary feeding between children less than one year and children above one year?</b>				<input type="checkbox"/>
1. Yes                      2. No (Skip to Q15 )				

<b>Q14: How? (Not prompted)</b>			
<b>Q14_1: Type of food ( Soft or solid)</b>	1. Yes	2. No	<input type="checkbox"/>
<b>Q14_2: Quantity</b>	1. Yes	2. No	<input type="checkbox"/>
<b>Q14_3: The child eats from the family food</b>	1. Yes	2. No	<input type="checkbox"/>
<b>Q14_4: The child eats alone</b>	1. Yes	2. No	<input type="checkbox"/>
<b>Q14_5: Others, specify .....</b>			<input type="checkbox"/>
<b>Q15: Did you start feeding your child from the family food?</b> 1. Yes                      2. No ( Skip to Q17)			<input type="checkbox"/>
<b>Q16: At what age did you start feeding your child from the family food? .....</b>			<input type="checkbox"/>
<b>Q17: Are there any differences in complementary feeding between male and female children?</b> 1. Yes                      2. No (Skip to Q19 )			<input type="checkbox"/>
<b>Q18: How? .....</b>			<input type="checkbox"/>
<b>Q19: In general, do you prefer homemade complementary foods over commercial ones?</b> 1. Homemade                      2. Commercial                      3. No difference			<input type="checkbox"/>

<b>Q20: Why?</b> (Not prompted)			
<b>Q20_1: Non existence of preservatives</b>	1. Yes	2. No	<input type="checkbox"/>
<b>Q20_2: Fresh</b>	1. Yes	2. No	<input type="checkbox"/>
<b>Q20_3: Cleaner</b>	1. Yes	2. No	<input type="checkbox"/>
<b>Q20_4: Nutritive value of food</b>	1. Yes	2. No	<input type="checkbox"/>
<b>Q20_5: More economical</b>	1. Yes	2. No	<input type="checkbox"/>
<b>Q20_6: Quiker in preparation</b>	1. Yes	2. No	<input type="checkbox"/>
<b>Q20_7: Others, specify .....</b>			<input type="checkbox"/>
<b>Q21: In which cases do you use commercial food over home made food?</b> .....			<input type="checkbox"/>

**Use of commercial available foods**

**Q22: What types of commercial food do you give your child and at what age? (Prompted )**

Food	Age (In months )	Price (NIS)	Size (Small or Large)	Storage Method	
Q22_1: Warm porridge (such as Cerelac)					<input type="checkbox"/>
Q22_2: Biscuit					<input type="checkbox"/>
Q22_3: Milk pudding (such as Custard)					<input type="checkbox"/>
Q22_4: Ready made milled fruits					<input type="checkbox"/>
Q22_5: Ready made milled vegetables					<input type="checkbox"/>
Q22_6: Pasteurized flavored milk					<input type="checkbox"/>
Q22_7: Fruit Juice					<input type="checkbox"/>
<b>Q23: For supplementary commercial foods, do you prefer:</b> 1. Palestinian foods 2. Israeli food 3. Other foods 4. No difference (skip to Q25)					<input type="checkbox"/>
<b>Q24: Why? .....</b>					<input type="checkbox"/>

Preference of specific products

**Q25: Among the following commercial foods choose the two types you prefer feeding to your child from the age of 6 months up to 12 months?**

Food	Rank	
Q25_1: Warm porridge (such as Cerelac)		<input type="checkbox"/>
Q25_2: Biscuit		<input type="checkbox"/>
Q25_3: Milk pudding (such as Custard)		<input type="checkbox"/>
Q25_4: Ready made milled fruits		<input type="checkbox"/>
Q25_5: Ready made milled vegetables		<input type="checkbox"/>
Q25_6: Pasteurized flavored milk		<input type="checkbox"/>
Q25_6: Fruit Juice		<input type="checkbox"/>
Q25_7: Milled Rice		<input type="checkbox"/>
Q26: Why do you select (name of product) as the first one? .....		<input type="checkbox"/>

<b>Q27: Among the following commercial foods, choose the two types you prefer feeding to your child from the age of 12 months up to 24 months?</b>		
<b>Food</b>	<b>Rank</b>	
Q27_1: Warm porridge( such as Cerelac)		<input type="checkbox"/>
Q27_2: Biscuit		<input type="checkbox"/>
Q27_3: Milk pudding (such as Custard)		<input type="checkbox"/>
Q27_4: Pasteurized flavored milk		<input type="checkbox"/>
Q27_5: Juice Fruit		<input type="checkbox"/>
Q28: Why do you select (name of product ) as the first one? .....		<input type="checkbox"/>
<b>Q29: Among the following commercial foods, choose the two types you prefer feeding to your child from the age of 24 months up to 36 months?</b>		
<b>Food</b>	<b>Rank</b>	
Q29_2: Biscuit		<input type="checkbox"/>
Q29_3: Milk pudding (such as Custard)		<input type="checkbox"/>
Q29_4: Pasteurized flavored milk		<input type="checkbox"/>
Q29_5: Juice Fruit		<input type="checkbox"/>
Q30: Why do you select (name of product ) as the first one?		

<b>Q31: If the following types of foods were produced by the Palestinians, what is the packing size you prefer and how much would you be willing to pay for these foods?</b>			<input type="checkbox"/>
<b>Food</b>	<b>Preferred size</b>	<b>Price (NIS)</b>	
<b>Q31_1: Warm porridge( such as Cerelac)</b>	1.small can for one serving 2. large can for multi servings		<input type="checkbox"/>
<b>Q31_2: Biscuit</b>	1.small can for one serving 2. large can for multi servings		<input type="checkbox"/>
<b>Q31_3: Milk pudding (such as Custard)</b>	1.small can for one serving 2. large can for multi servings		<input type="checkbox"/>
<b>Q31_4: Ready made milled fruits</b>	1.small can for one serving 2. large can for multi servings		<input type="checkbox"/>
<b>Q31_5: Ready made milled vegetables</b>	1.small can for one serving 2. large can for multi servings		<input type="checkbox"/>
<b>Q31_6: Pasteurized flavored milk</b>	1.small can for one serving 2. large can for multi servings		<input type="checkbox"/>
<b>Q31_6: Juice Fruit</b>	1.small can for one serving 2. large can for multi servings		<input type="checkbox"/>
<b>Q32: Do you have any special packing preferences, what are they? .....</b>			

Acceptance of fortified food and micronutrient powders	
<b>Q33: Would you accept giving your child solid foods or fluids that are fortified with nutritional material such as minerals and vitamins?</b> 1. Yes                      2. No	<input type="checkbox"/>
<b>Q34: Why?</b> .....	<input type="checkbox"/>
<b>Q35: IF there is a Palestinian product which consist of powder of essential vitamins and minerals in small sachets and can be added to your child's food without changing the color , the smell or the taste of food, would you buy this powder and accept the idea of adding it over the foods you give to your child ?</b> 1. Yes                      2. No	
<b>Q36: Why?</b> .....	<input type="checkbox"/>
<b>Q37: If the product described in Q35 was produced and each package contains 30 sachets and you only consume one sachet a day, how much would you be willing to pay for this type of product? .....</b>	<input type="checkbox"/>
Supplements	
<b>Q38: One practice during the first year of the child's life is to give supplements with vitamin A and D, as well as fortifying iron, has your child been given these supplements? 1. Yes                      2. no ( skip to Q42)</b>	<input type="checkbox"/>
<b>Q39: What exactly did he take?</b> 1. A & D vitamins      2. Iron      3. Both      4. Don't know	<input type="checkbox"/>
<b>Q40: Did you give it to your child regularly?</b> 1. Yes (Skip to Q42)                      2. No	<input type="checkbox"/>
<b>Q41: Why?</b> .....	<input type="checkbox"/>
<b>Q42: As we mentioned previously, one practice during the first year of the child's life is to give supplements with vitamin A and D, as well as fortifying iron, what's your opinion about this practice? .....</b>	<input type="checkbox"/>

<b>Information for improving complementary feedings</b>	
<b>Q43: What type of information do you need that would help you in improving your complementary feeding practices for your children?</b> .....	<input type="checkbox"/>
<b>Q44: What is the way you prefer for getting this information? (Not prompted)</b>	
<b>Q44_1: Brochures</b>	<input type="checkbox"/>
<b>Q44_2: Workshops</b>	<input type="checkbox"/>
<b>Q44_3: Booklets</b>	<input type="checkbox"/>
<b>Q44_4: Radio plays</b>	<input type="checkbox"/>
<b>Q44_5: Others, specify .....</b>	<input type="checkbox"/>
<b>Q45: Is there any one else who help you to decide on the type of complementary fluids and foods given to your child?</b> 1. Yes                      2. No <b>(Skip to D1)</b>	<input type="checkbox"/>
<b>Q46: Who? .....</b>	<input type="checkbox"/>

<b>Demographic information of the household</b>	
<b>D1: Type of place of residence:</b> 1. Rural 2. Urban 3. Refugee camp	<input type="checkbox"/>
<b>D2: Are you currently:</b> 1. Married 2. Divorced / Separated 3. Widow	<input type="checkbox"/>
<b>D3: The occupational Status of the mother:</b> 1. A full time job 2. Part time job      3. I don't work	<input type="checkbox"/>
<b>D4: The occupational Status of the head of the household:</b> 1. Employed 2. Unemployed	<input type="checkbox"/>
<b>D5 : What is your educational level:</b> 1. Illiterate 2. Capable of reading and writing without education 3. Elementary 4. . Preparatory 5. Secondary 6. University and more	<input type="checkbox"/>
<b>D6: Number of household's members .....</b>	<input type="checkbox"/>
<b>D7: What's the monthly average of the household income in NIS .....</b>	<input type="checkbox"/>



**USAID**  
FROM THE AMERICAN PEOPLE



**AED**  
Ideas Changing Lives



**ANERA**  
Improving Lives in the Middle East  
Since 1988